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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,985	11/03/2003	Timothy E. Ostromeck	019937.0414 (ET 01-12)	5305

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DALLAS OFFICE OF FULBRIGHT & JAWORSKI L.L.P.
2200 ROSS AVENUE
SUITE 2800
DALLAS, TX 75201-2784

EXAMINER

KRASNIC, BERNARD

ART UNIT	PAPER NUMBER
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2621

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/699,985

Applicant(s)

OSTROMEK ET AL.

Examiner

Bernard Krasnic

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11-03-2003 and 3-01-2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
Page 5, line 19: "paths 20a-c optically" should be -- paths 20a-b optically --.
Page 5, line 29: "processor 32a-b" should be -- processor 34a-b --.
Page 7, line 21: "Image processor 24" should be -- Image processor 22 --.
Page 10, line 20: "from processors 32a-b" should be -- from processors 34a-b --.

Appropriate correction is required.

Claim Objections

2. Claim 16 is objected to because of the following informalities:
Claim 16, line 19: "from a group consisting of" should be -- from the group consisting of --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 7-12, and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Spight et al (US 4,462,046).

Re Claims 1, 8, and 15 respectively: Spight, as recited in claim 1, discloses a method / machine vision system for processing image information (see Fig. 1, title of invention, col. 1, lines 46-49 and 67-68), comprising receiving light / incoherent light signals (11, 13) or coherent light signals ($o(x,y)$ and $r(x,y)$) comprising image information / scene information (see Fig. 1, col. 2, lines 35-57, col. 4, lines 27-28 and 44-45); performing a first optical transform / Fourier Transform via an optical lens system (30) on the light to yield a first optically transformed light / $F_o(x,y)$ (see Fig. 1, col. 2, lines 50-57, col. 4, lines 27-37); performing a second optical transform / Fourier Transform via an optical lens system (32) on the light to yield a second optically transformed light / $IR(x,y)$ (see Fig. 1, col. 2, lines 50-57, col. 4, lines 43-50); generating a first metric / $F_o(x,y)$ in accordance with the first optically transformed light (see Fig. 1, the metric is the Fourier Transformed signal $F_o(x,y)$ itself); generating a second metric / $IR(x,y)$ in accordance with the second optically transformed light (see Fig. 1, the metric is the Fourier Transformed signal $IR(x,y)$ itself); processing the first metric and the second metric to yield a processed metric / square sum of $IR(x,y)$ and $F_o(x,y)$ (see Fig. 1, col. 2, lines 50-64, col. 4, lines 56-63, col. 5, lines 2-19); and performing an inverse optical transform / Inverse Fourier Transform via an optical lens system (36) on the processed metric to

process the image information of the light (see Fig. 1, col. 2, lines 64-68, col. 3, lines 1-6, col. 4, lines 42-48).

As to claim 8, it differs from claim 1 in that claim 1 is a method claim whereas claim 8 is a system claim. Therefore, all the limitations in claim 8 respectively are analyzed and taught by Spight in the same manner Spight taught claim 1 above.

As to claim 15, it differs from claim 1 in that claim 1 is a method claim whereas claim 15 is a means plus function system claim. Therefore, all the limitations in claim 15 respectively are analyzed and taught by Spight in the same manner Spight taught claim 1 above.

The limitations, as recited in claim 15, "means for receiving light" in line 3, "means for performing" in lines 5 and 7, "means for generating" in lines 9 and 11, "means for processing" in line 13, and "means for performing" in line 15, invoke 35 USC 112, 6th paragraph.

Re Claims 2 and 9 respectively: Spight, as recited in claim 2, discloses the first optical transform / Fourier Transform via an optical lens system (30) is substantially similar to the second optical transform / Fourier Transform via an optical lens system (32) (see Fig. 1, col. 2, lines 54-57, both the optical lens systems perform Fourier transform).

As to claim 9, it differs from claim 2 in that claim 2 is a method claim whereas claim 9 is a system claim. Therefore, all the limitations in claim 9 respectively are analyzed and taught by Spight in the same manner Spight taught claim 2 above.

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Re Claims 3 and 10 respectively: Spight, as recited in claim 3, discloses the first optical transform / Fourier Transform via an optical lens system (30) is compatibly different from the second optical transform / Fourier Transform via an optical lens system (32) (see Fig. 1, col. 4, lines 33-37).

Although the compatibly different limitation is silent in Spight, it is an inherent feature because each of the two lenses 30 and 32 could have a different focal length making them compatibly different.

As to claim 10, it differs from claim 3 in that claim 3 is a method claim whereas claim 10 is a system claim. Therefore, all the limitations in claim 10 respectively are analyzed and taught by Spight in the same manner Spight taught claim 3 above.

Re Claims 4 and 11 respectively: Spight, as recited in claim 4, discloses the first optical transform comprises a first Fourier transform / Fourier Transform via an optical lens system (30); and the second optical transform comprises a second Fourier transform / Fourier Transform via an optical lens system (32) (see Fig. 1, col. 2, lines 54-57, both the optical lens systems perform Fourier transform).

As to claim 11, it differs from claim 4 in that claim 4 is a method claim whereas claim 11 is a system claim. Therefore, all the limitations in claim 11 respectively are analyzed and taught by Spight in the same manner Spight taught claim 4 above.

Re Claims 5 and 12 respectively: Spight, as recited in claim 5, discloses selecting first data / $F_o(x,y)$ from the first metric; selecting second data / $IR(x,y)$ from the second

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metric; and fusing / square sum of $IR(x,y)$ and $Fo(x,y)$ the first data and the second data to yield the processed metric / square sum of $IR(x,y)$ and $Fo(x,y)$ (see Fig. 1, col. 2, lines 50-64, col. 4, lines 56-63, col. 5, lines 2-19).

As to claim 12, it differs from claim 5 in that claim 5 is a method claim whereas claim 12 is a system claim. Therefore, all the limitations in claim 12 respectively are analyzed and taught by Spight in the same manner Spight taught claim 5 above.

Re Claims 7 and 14 respectively: Spight, as recited in claim 7, discloses generating an image from the processed metric (see col. 2, line 68, col. 3, lines 1-6); and displaying / monitor (200) the image (see Figs. 1 and 4, col. 3, lines 1-6).

As to claim 14, it differs from claim 7 in that claim 7 is a method claim whereas claim 14 is a system claim. Therefore, all the limitations in claim 14 respectively are analyzed and taught by Spight in the same manner Spight taught claim 7 above.

Re Claim 16: The limitation "a procedure selected from the group of a first procedure and a second procedure" is referred to as a Markush group and this Markush group recites choosing either the first procedure or the second procedure to process the first metric and the second metric. Therefore, while considering the first procedure for fusing, all the limitations respectively are analyzed and taught by Spight in the same manner as Spight taught claims 1-5, and 7 above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spight as applied to claims 1 and 8 above, and further in view of Schneider et al (US 5,224,174).

However, Spight fails to disclose or fairly suggest detecting a target using the processed metric.

Schneider, as recited in claim 6, discloses generating the processed metric / using spatial filter in response to the first metric and the second metric; and detecting a target / fingerprint pattern recognition using the processed metric (see col. 25, lines 16-25 and 47-56).

As to claim 13, it differs from claim 6 in that claim 6 is a method claim whereas claim 13 is a system claim. Therefore, all the limitations in claim 13 respectively are analyzed and taught by Schneider in the same manner Schneider taught claim 6 above.

Therefore, in view of Schneider, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Spight's method by including the capability of detecting a target using the processed metric to the processor that

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yields the processed metric in order to incorporate the capability of performing fingerprint pattern recognition.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Javidi et al discloses an optical security system using Fourier plane encoding; Javidi et al discloses a multi-dimensional pattern recognition by use of digital holography; Kopp et al discloses a method for classifying biological cells; Takesue et al discloses an optical associative identifier with real time joint transform correlator; Hashimoto et al discloses a multiplexing optical system and feature vector transformation apparatus using the same, feature vector detecting and transmitting apparatus, and recognition and classification system using these apparatuses; Toyoda et al discloses an optical recognition device; Grycewicz discloses techniques to improve binary joint transform correlator, particularly for fingerprint recognition; Ishikawa et al discloses processing of image obtained by multi-eye camera.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-3:00pm and every other Friday 8:00am-3:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571) 272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bernard Krasnic
December 15, 2006



JONG SUK LEE
SUPERVISORY PATENT EXAMINER